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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,680	03/09/2004	Roger A. Grey	01-2631A	2626

24114 7590 07/22/2005

LYONDELL CHEMICAL COMPANY  
3801 WEST CHESTER PIKE  
NEWTOWN SQUARE, PA 19073

EXAMINER
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JOHNSON, CHRISTINA ANN

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/796,680

Applicant(s)

GREY ET AL.

Examiner

Christina Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/31/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 8-9, 11-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Grey.

Grey (US 6,403,815) discloses an olefin oxidation process that comprises reacting an olefin, oxygen and hydrogen in a solvent in the presence of a catalyst mixture. (column 2, lines 10-15). The catalyst mixture comprises a titanium zeolite, such as TS-1, and a supported palladium catalyst (column 2, lines 15-18). It is taught that the supported palladium catalyst may be a palladium compound impregnated on a porous support, including organic polymer resins such as polystyrene (column 3, lines 5-20). It is the position of the examiner that the impregnated palladium material would be encapsulated by the polymer support. It is taught that the zeolite and the supported palladium catalyst may be palletized or extruded together (column 3, lines 60-65).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Grey.

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3. Claims 1-5, 8-9, 11-16, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhou et al.

Zhou et al. (US 6,534,661) discloses an epoxidation catalyst comprising a titanium zeolite such as TS-1 (column 8, lines 40-50). The reference teaches that a solution comprising an ionic polymer and a dissolved noble metal salt is prepared and the titanium zeolite is mixed with the polymer solution and recovered (refer to column 8, line 65 – column 9, line 5). It is the position of the examiner that the preparation method taught by the reference would result in a polymer encapsulated transition metal.

Suitable polymers include polyacrylates (column 8, lines 20-40). Suitable noble metals include palladium, platinum, gold, iridium, osmium, rhodium, and ruthenium (column 8, lines 5-22).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Zhou et al.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-8, 10-15, and 17-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 copending Application 10/796,842 in view of Muller et al.

Copending Application 10/796,842 claims a catalyst comprising a polymer-encapsulated titanium zeolite and a process of using such (claims 1 and 7).

The difference between the instant claims and those of '842 is that '842 does not claim that the catalyst contains a transition metal.

Muller et al. (US 5,849,265) discloses a titanium zeolite catalyst which has been promoted with one or more transition metals such as palladium to improve selectivity and activity (column 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have included a transition metal in the catalyst claimed in '842 in light of the teaching by Muller et al. that such a transition metal will improve selectivity and activity. Because both catalyst compositions are useful in the oxidation of organic compounds, one would have a reasonable expectation of success from the combination.

### ***Conclusion***


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Johnson whose telephone number is (571) 272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Christina Johnson  
Patent Examiner  
Art Unit 1725  
7/20/05

CAJ  
July 20, 2005